

## BOUNDARY ACOUSTIC WAVE DEVICE

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## BACKGROUND OF THE INVENTION

## 1. Field of the Invention

[0001] The present invention relates to boundary acoustic wave devices using SH (shear horizontal) boundary acoustic waves, and more specifically, the present invention relates to a boundary acoustic wave device having an electrode in the interface between a piezoelectric material and a dielectric material.

## 2. Description of the Related Art

[0002] Various types of surface acoustic wave devices have been used in RF and IF filters for cellular phones, VCO resonators, and VIF filters for televisions. Surface acoustic wave devices use surface acoustic waves, such as Rayleigh waves or first leaky waves propagating along the surface of a medium.

[0003] Since surface acoustic waves propagate along the surface of a medium, they are sensitive to the changes of the medium state. Accordingly, in order to protect the surface acoustic wave propagating surface of the medium, the surface acoustic wave element is enclosed in a package having a recess or hole formed in the region opposing the propagating surface. The use of the package having the recess or the hole inevitably increases the cost of the surface acoustic wave